

U.S. DEPARTMENT OF AGRICULTURE-FOREST SERVICE

NORTHERN FOREST EXPERIMENT STATION

Forest Insect Research Project

Quarterly Progress Reports

July -September
and

October - December

The reports for the past two quarters are combined because of personnel transfers and very few items to be reported.

White Spruce Cone and Seed Insects

The study of insect damage to white spruce cones and seeds is progressing very satisfactorily. This is part of a long-term cooperative study started in 1958 with Forest Management Research on the natural regeneration of white spruce in interior Alaska.

In 1958 insect damage was light with only 1.9 percent of the seed destroyed. Damage increased in 1959 with 2.8 percent of the seed destroyed. The insect damage reached a peak in 1960 and 5.3 percent of the seed was destroyed. A sharp decline in insect populations was evident in 1961 with only 1.6 percent of the seed destroyed. The reason for this decline is unknown.

Two new species of cone and seed insects were found in September of 1961. They were the spruce bract midge (Dasyneura canadensis Felt) and the cone-axis midge (Dasyneura rachiphaga Tripp). A hymenopterous parasite (Platygaster filicornis Ashm.) was found in galls formed by spruce bract midge larvae.

Hopkins U.S. File System

The Station's Hopkins U.S. file system has been revised and set up following a plan published by the PNW Station. Certain parts of the system have been modified in order to cross reference insects assigned a Hopkins number with those of the same species which have been assigned a field collection number from Forest Insect Surveys.

Black-headed Budworm Development Study

A study to record and evaluate the effects of different aspects and elevations on development of the black-headed budworm was conducted

during 1961. The study area was on Prince of Wales Island in south-east Alaska.

The results of this study show that:

1. Insect development was quite uniform throughout the area. The influence of aspect and elevation was not great. Even the slight differences in development decreased as the season progressed.
2. Larval collections made along the beach fringe are quite representative of the population within the forest in respect to development. This will facilitate a more complete survey with limited time and manpower.
3. Vertical distribution of black-headed budworm larvae within tree crowns found to be approximately 60 percent in the top third, 30 percent in the middle third, and 10 percent in the bottom third.

Weather stations were established along the beach at four locations. Temperature, relative humidity, and rainfall data were collected throughout the summer. Additional seasons' records will show whether this type of information can be used to help predict budworm development and populations.

Personnel Changes

R. A. Werner was hired as a permanent employee on June 30. He formerly worked as a forester in Region 6.

G. L. Downing was transferred to the Division of Timber Management, Forest Insect Surveys, Region 5.

W. E. Rose went on leave without pay in January to complete graduate work at the University of Massachusetts.